IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R.
1.121.

1.   (previously presented)   A method for compressing image data from an
uncompressed image data stream, the method comprising the steps of:

(a)   compiling and storing a plurality of compression mapping tables for
converting uncompressed data representative of individual picture elements to lossless
compressed data;

(b)   applying at least first and second compression mapping tables from the
stored plurality of compression mapping tables to subregions of an uncompressed image
data stream to compress the subregions; and

(c)   appending data for the compressed subregions to form a compressed image
data stream.

2.   (original)   The method of claim 1, wherein the compression mapping
tables are compression tables mapping a parameter representative of each picture element to
a compressed data code.

3.   (original)   The method of claim 2, wherein the parameter is a prediction
error for each picture element.

4.   (original)   The method of claim 3, wherein the prediction errors are
identified by application of a desired predictor algorithm to the uncompressed image data
stream.

5.   (original)   The method of claim 1, including the further step of selecting the compression mapping tables applied in step (b) from the plurality of compression mapping tables.

6.   (original)   The method of claim 5, wherein the compression mapping tables are selected based upon relative entropy levels of each subregion.

7.   (original)   The method of claim 6, wherein the relative entropy levels are determined by analysis of relative variation of picture element intensity within each subregion.

8.   (original)   The method of claim 7, wherein the variation of picture element intensity is determined by application of a prediction algorithm to determine a difference between a predicted value of each picture element and the actual value of the respective picture element.

9.   (original)   The method of claim 1, wherein the compression mapping tables employed in step (b) are selected based upon which compression mapping tables provide the shortest compressed data stream for each subregion.

10.   (original)   The method of claim 1, wherein the number of compression mapping tables employed in step (b) may be encoded with at most two bits of data.

11.   (original)   The method of claim 1, including the step of encoding in the compressed image data stream identifiers representative of the compression mapping tables applied in step (b).

12.   (previously presented)   A method for compressing image data, the method comprising the step of:

(a)   defining a family of compression code tables for converting uncompressed image data to lossless compressed data;

(b)   storing the compression code tables in an image data compression station and in an image data decompression station;

(c)   selecting at least two of the compression code tables for compression of subregions of an image data stream;

(d)   compressing the image data stream in accordance with the selected compression code tables at the compression station for decompression at the decompression station.

13.   (original)   The method of claim 12, including the step of encoding in the compressed image data stream identifiers of the selected compression code tables.

14.   (original)   The method of claim 12, wherein the compression code tables are defined based upon analysis of typical images to be compressed at the compression station.

15.   (original)   The method of claim 12, comprising the further step of applying a prediction algorithm to portions of the data stream representative of individual picture elements of an image to determine difference values between predicted values and actual values for the picture elements, and wherein the compression code tables are applied to encode the difference values.

16.   (original)   The method of claim 12, wherein the compression code tables selected at step (c) are selected based upon which tables of the family of tables provides the shortest stream of compressed data for each subregion.

17.   (original)   The method of claim 12, wherein the number of compression mapping tables employed in step (c) may be encoded with at most two bits of data.

18.   (previously presented)   A system for storing, transmitting and viewing images, the system comprising:

a data compression station configured to store a plurality of compression code tables for conversion of image data to lossless compressed image data and to execute a compression routine in which an image data stream is converted to a compressed file by dividing into subregions and each subregion compressing in accordance with a compression code table selected from the plurality of compression code tables based upon which compression code table provides optimal lossless compression of the subregion;

a data storage device for receiving and storing the compressed file; and

an image decompression station configured to store the plurality of compression code tables, to access the compressed file from the data storage device, and to execute a decompression routine in which the compression code tables applied to compress the image data stream are applied to decompress the compressed file to reconstruct the image data stream.

19.   (original)   The system of claim 18, further comprising a compression library for storing at least a portion of the compression and decompression routines, and wherein the compression station and the decompression station can access the compression library for code used in the compression or decompression routines.

20.   (original)   The system of claim 18, wherein the compression routine includes analysis of the image data stream for data representative of a characteristic of an image encoded by the image data stream.

21.   (original)   The system of claim 20, wherein the characteristic is an identification of an image acquisition system originating the image data stream.

22.   (original)   The system of claim 20, wherein the characteristic is an identification of a feature represented in an image encoded by the image data stream.

23.   (original)   The system of claim 18, wherein the compression routine includes encoding of identifiers of the selected compression code tables within the compressed file, and wherein the decompression routine includes analysis of the identifiers for selection of the same compression code tables for decompression of the compressed file.

24.   (previously presented)   A computer program for compressing image data, the program comprising:

a machine readable medium; and

configuration code and a plurality of compression code tables stored on the machine readable medium, the configuration code including an algorithm for analyzing an image data stream, for compressing subregions of the image data stream by application of a plurality of compression code tables, and for compiling the compressed subregions into a lossless compressed data file.

25.   (original)   The computer program of claim 24, wherein a family of candidate compression code tables is stored on the machine readable medium.

26.   (original)   The computer program of claim 24, wherein the algorithm includes computation of compressed data lengths provided by application of a plurality of candidate compression code tables for compression of each subregion, and selection of the compression code tables providing the shortest compressed data lengths for each subregion.

27.   (original)   The computer program of claim 24, wherein the code is installed on the machine readable medium via a configurable network link.